



DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 20-35]

Arms Sales Notification

AGENCY: Defense Security Cooperation Agency, Department of Defense.

ACTION: Arms sales notice.

SUMMARY: The Department of Defense is publishing the unclassified text of an arms sales notification.

FOR FURTHER INFORMATION CONTACT: Karma Job at karma.d.job.civ@mail.mil or (703) 697-8976.

SUPPLEMENTARY INFORMATION: This 36(b)(1) arms sales notification is published to fulfill the requirements of section 155 of Public Law 104-164 dated July 21, 1996. The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 20-35 with attached Policy Justification and Sensitivity of Technology.

Dated: November 25, 2020.

Kayyonne T. Marston,

Alternate OSD Federal Register Liaison Officer,

Department of Defense.



DEFENSE SECURITY COOPERATION AGENCY
201 12TH STREET SOUTH, SUITE 101
ARLINGTON, VA 22202-5408

September 30, 2020

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
H-209, The Capitol
Washington, DC 20515

Dear Madam Speaker:

Pursuant to the reporting requirements of Section 36(b)(1) of the Arms Export Control Act, as amended, we are forwarding herewith Transmittal No. 20-35 concerning the Air Force's proposed Letter(s) of Offer and Acceptance to the Government of Switzerland for defense articles and services estimated to cost \$6.58 billion. After this letter is delivered to your office, we plan to issue a news release to notify the public of this proposed sale.

Sincerely,

A handwritten signature in black ink, reading "Heidi H. Grant", is positioned below the word "Sincerely,".

Heidi H. Grant
Director

Enclosures:

1. Transmittal
2. Policy Justification
3. Sensitivity of Technology

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act, as amended

(i) Prospective Purchaser: Government of Switzerland

(ii) Total Estimated Value:

Major Defense Equipment*	\$4.08 billion
Other	<u>\$2.50 billion</u>
TOTAL	\$6.58 billion

(iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase:

Major Defense Equipment (MDE):

Forty (40) F-35 Joint Strike Fighter Conventional Take Off and Landing (CTOL) Aircraft
Forty-six (46) Pratt & Whitney F-135 Engines (40 installed and 6 spares)
Forty (40) Sidewinder AIM-9X Block II+ (Plus) Tactical Missiles
Fifty (50) Sidewinder AIM-9X Block II Captive Air Training Missiles (CATMs)
Six (6) Sidewinder AIM-9X Block II Special Air Training Missiles (NATMS)
Four (4) Sidewinder AIM-9X Block II Tactical Guidance Units
Ten (10) Sidewinder AIM-9X Block II CATM Guidance Units
Eighteen (18) KMU-572 JDAM Guidance Kits for GBU-54
Twelve (12) Bomb MK-82 500LB, General Purpose
Twelve (12) Bomb MK-82, Inert
Twelve (12) GBU-53/B Small Diameter Bomb II (SDB II) All-Up Round (AUR)
Eight (8) GBU-53/B SDB II Guided Test Vehicle (GTV)

Non-MDE:

Also included are Electronic Warfare Systems; Command, Control, Communications, Computer and Intelligence/Communications, Navigational, and Identification (C4I/CNI); Autonomic Logistics Global Support System (ALGS); Autonomic Logistics Information System (ALIS); Full Mission Trainer; Weapons Employment Capability and other Subsystems, Features, and Capabilities; F-35 unique infrared flares; reprogramming center access; F-35 Performance Based Logistics; software development/integration; flight test instrumentation; aircraft ferry and tanker support; Detector Laser DSU-38A/B, Detector Laser DSU-38A(D-2)/B, FMU-139D/B Fuze, KMU-572(D-2)/B Trainer (JDAM), 40 inch Wing Release Lanyard; GBU-53/B SDB II Weapon Load Crew Trainers (WLCT); Cartridge, 25 mm PGU-23/U; weapons containers; aircraft and munitions support and test equipment; communications equipment; spares and repair parts; repair and return support; personnel training and training equipment; publications and technical documents; U.S. Government and contractor engineering, technical, and logistics support services; and other related elements of logistical and program support.

(iv) Military Department: Air Force (SZ-D-SAA; SZ-D-YAD), Navy (SZ-P-LAY)

(v) Prior Related Cases, if any: None

(vi) Sales Commission, Fee, etc., Paid, Offered, or Agreed to be Paid: None

(viii) Sensitivity of Technology Contained in the Defense Article or Defense Services Proposed to be Sold: See Attached Annex

(viii) Date Report Delivered to Congress: **September 30, 2020**

*As defined in Section 47(6) of the Arms Export Control Act.

POLICY JUSTIFICATION

Switzerland – F-35 Joint Strike Fighter Aircraft and Weapons

The Government of Switzerland requested to buy up to forty (40) F-35 Joint Strike Fighter Conventional Take Off and Landing (CTOL) aircraft; forty-six (46) Pratt & Whitney F-135 engines; forty (40) Sidewinder AIM-9X Block II+ (Plus) Tactical Missiles; fifty (50) Sidewinder AIM-9X Block II Captive Air Training Missiles (CATMs); six (6) Sidewinder AIM-9X Block II Special Air Training Missiles (NATMS); four (4) Sidewinder AIM-9X Block II Tactical Guidance Units; ten (10) Sidewinder AIM-9X Block II CATM Guidance Units; eighteen (18) KMU-572 JDAM Guidance Kits for GBU-54; twelve (12) Bomb MK-82 500LB, General Purpose; twelve (12) Bomb MK-82, Inert; twelve (12) GBU-53/B Small Diameter Bomb II (SDB II) All-Up Round (AUR); and eight (8) GBU-53/B SDB II Guided Test Vehicle (GTV). Also included are Electronic Warfare Systems; Command, Control, Communications, Computer and Intelligence/Communications, Navigational, and Identification (C4I/CNI); Autonomic Logistics Global Support System (ALGS); Autonomic Logistics Information System (ALIS); Full Mission Trainer; Weapons Employment Capability and other Subsystems, Features, and Capabilities; F-35 unique infrared flares; reprogramming center access; F-35 Performance Based Logistics; software development/integration; flight test instrumentation; aircraft ferry and tanker support; Detector Laser DSU-38A/B, Detector Laser DSU-38A(D-2)/B, FMU-139D/B Fuze, KMU-572(D-2)/B Trainer (JDAM), 40 inch Wing Release Lanyard; GBU-53/B SDB II Weapon Load Crew Trainers (WLCT); Cartridge, 25 mm PGU-23/U; weapons containers; aircraft and munitions support and test equipment; communications equipment; spares and repair parts; repair and return support; personnel training and training equipment; publications and technical documents; U.S. Government and contractor engineering, technical, and logistics support services; and other related elements of logistical and program support. The total estimated cost is \$6.58 billion.

This proposed sale will support the foreign policy and national security of the United States by helping to improve the security of a friendly European nation that continues to be an important force for political stability and economic progress in Europe.

This proposed sale of F-35s and associated missiles and munitions will provide the Government of Switzerland with a credible defense capability to deter aggression in the region. The proposed sale will also replace Switzerland's retiring F/A-18s and enhance its air-to-air and air-to-ground self-defense capability. Switzerland will have no difficulty absorbing these aircraft into its armed forces.

The proposed sale of this equipment and support will not alter the basic military balance in the region.

The principal contractors will be Lockheed Martin Aeronautics Company, Fort Worth, TX; Pratt & Whitney Military Engines, East Hartford, CT; The Boeing Company, St. Charles, MO and

Raytheon Missiles and Defense, Tucson, AZ. This proposal is being offered in the context of a competition. The purchaser typically requests offsets. Any offset agreement will be defined in negotiations between the purchaser and the contractor.

Implementation of this proposed sale will require multiple trips to Switzerland involving U.S. Government and contractor representatives for technical reviews/support, program management and training over the life of the program. U.S. contractor representatives will be required in Switzerland to conduct Contractor Engineering Technical Services (CETS) and Autonomic Logistics and Global Support (ALGS).

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

Transmittal No. 20-35
Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act

Annex
Item No. vii

(vii) Sensitivity of Technology:

1. The F-35A Conventional Take Off and Landing (CTOL) aircraft is a single-seat, single engine, all-weather, stealth, fifth-generation, multirole aircraft. It contains sensitive technology including the low observable airframe/outer mold line, the Pratt and Whitney F135 engine, AN/APG-81 radar, an integrated core processor central computer, a mission systems/electronic warfare suite, a multiple sensor suite, technical data/documentation and associated software. Sensitive elements of the F-35A are also included in operational flight and maintenance trainers. Sensitive and classified elements of the F-35A CTOL aircraft include hardware, accessories, components, and associated software for the following major subsystems:

a. The Pratt and Whitney F135 engine is a single 40,000-lb thrust class engine designed for the F-35 and assures highly reliable, affordable performance. The engine is designed to be utilized in all F-35 variants, providing unmatched commonality and supportability throughout the worldwide base of F-35 users.

b. The AN/ APG-81 Active Electronically Scanned Array (AESA) is a high processing power/high transmission power electronic array capable of detecting air and ground targets from a greater distance than mechanically scanned array radars. It also contains a synthetic aperture radar (SAR), which creates high-resolution ground maps and provides weather data to the pilot, and provides air and ground tracks to the mission system, which uses it as a component to fuse sensor data.

c. The Electro-Optical Targeting System (EOTS) provides long-range detection and tracking as well as an infrared search and track (IRST) and forward-looking infrared (FLIR) capability for precision tracking, weapons delivery and bomb damage assessment (BDA). The EOTS replaces multiple separate internal or podded systems typically found on legacy aircraft.

d. The Electro-Optical Distributed Aperture System (EODAS) provides the pilot with full spherical coverage for air-to-air and air-to-ground threat awareness, day/night vision enhancements, a fire control capability and precision tracking of wingmen/friendly aircraft. The EODAS provides data directly to the pilot's helmet as well as the mission system.

e. The Electronic Warfare (EW) system is a reprogrammable, integrated system that provides radar warning and electronic support measures (ESM) along with a fully integrated countermeasures (CM) system. The EW system is the primary subsystem used to enhance situational awareness, targeting support and self-defense through the search, intercept, location and identification of in-band emitters and to automatically counter IR and RF threats.

f. The Command, Control, Communications, Computers and Intelligence/ Communications, Navigation, and Identification (C4I/CNI) system provides the pilot with unmatched connectivity to flight members, coalition forces and the battlefield. It is an integrated subsystem designed to provide a broad spectrum of secure, anti-jam voice and data communications, precision radio navigation and landing capability, self-identification, beyond visual range target identification and connectivity to off-board sources of information. It also includes an inertial navigation and global positioning system (GPS) for precise location information. The functionality is tightly integrated within the mission system to enhance efficiency.

g. The aircraft C4I/CNI system includes two data links: the Multi-Function Advanced Data Link (MADL) and Link 16. The MADL is designed specifically for the F-35 and allows for stealthy communications between F-35s. Link 16 data link equipment allows the F-35 to communicate with legacy aircraft using widely-distributed J-series message protocols.

h. The F-35 Autonomic Logistics Global Sustainment (ALGS) provides a fully integrated logistics management solution. ALGS integrates a number of functional areas, including supply chain management, repair, support equipment, engine support and training. The ALGS infrastructure employs a state-of-the-art information system that provides real-time, decision-worthy information for sustainment decisions by flight line personnel. Prognostic health monitoring technology is integrated with the air system and is crucial to predictive maintenance of vital components.

i. The F-35 Autonomic Logistics Information System (ALIS) provides an intelligent information infrastructure that binds all the key concepts of ALGS into an effective support system. ALIS establishes the appropriate interfaces among the F-35 Air Vehicle, the warfighter, the training system, government information technology (IT) systems, and supporting commercial enterprise systems. Additionally, ALIS provides a comprehensive tool for data collection and analysis, decision support and action tracking.

j. The F-35 Training System includes several training devices to provide integrated training for pilots and maintainers. The pilot training devices include a Full Mission Simulator (FMS) and Deployable Mission Rehearsal Trainer (DMRT). The maintenance training devices include an Aircraft Systems Maintenance Trainer (ASMT), Ejection System Maintenance Trainer (ESMT), Outer Mold Line (OML) Lab, Flexible Linear Shaped Charge (FLSC) Trainer, F135 Engine Module Trainer and Weapons Loading Trainer (WLT). The F-35 Training System can be integrated, where both pilots and maintainers learn in the same Integrated Training Center (ITC). Alternatively, the pilots and maintainers can train in separate facilities (Pilot Training Center and Maintenance Training Center).

k. Other subsystems, features, and capabilities include the F-35's low observable air frame, Integrated Core Processor (ICP) Central Computer, Helmet Mounted Display System (HMDS), Pilot Life Support System (PLSS), Off-Board Mission Support (OMS) System, and publications/maintenance manuals. The HMDS provides a fully sunlight readable, bi-ocular display presentation of aircraft information projected onto the pilot's helmet visor. The use of a night vision camera integrated into the helmet eliminates the need for separate Night Vision Goggles. The PLSS provides a measure of Pilot Chemical, Biological, and Radiological Protection through use of an On-Board Oxygen Generating System (OBOGS); and an escape system that provides additional protection to the pilot. OBOGS takes the Power and Thermal Management System (PTMS) air and enriches it by removing gases (mainly nitrogen) by adsorption, thereby increasing the concentration of oxygen in the product gas and supplying breathable air to the pilot. The OMS provides a mission planning, mission briefing, and a maintenance/intelligence/tactical debriefing platform for the F-35.

2. The Reprogramming Center is located in the United States and provides F-35 customers with a means to update F-35 EW databases.

3. The AIM-9X Block II and Block II+ (Plus) SIDEWINDER Missile represents a substantial increase in missile acquisition and kinematics performance over the AIM-9M and replaces the AIM-9X Block I Missile configuration. The missile includes a high off-boresight seeker, enhanced countermeasure rejection capability, low drag/high angle of attack airframe and the ability to integrate with a helmet mounted cueing system. The software algorithms are the most sensitive portion of the AIM-9X missile. The software continues to be modified via a pre-planned product improvement (P³I) program to improve counter-countermeasure capabilities. Purchase will include AIM-9X Guidance Sections.

4. The GBU-54 Laser Joint Direct Attack Munition (LJDAM) is a 500 pound JDAM which incorporates all the capabilities of the JDAM guidance tail kit and adds a precision laser guidance set. The LJDAM gives the weapon system an optional semi-active laser guidance in addition to the Inertial Navigation System/Global Positioning System (INS/GPS) guidance. This provides the optional capability to strike moving targets. The GBU-54 consists of a laser guidance set, KMU-572 warhead specific tail kit, and MK-82 bomb body.

5. The GBU-53/B Small Diameter Bomb Increment II (SDB II) is a 250-lb class precision-guided, semi-autonomous, conventional, air-to-ground munition used to defeat moving targets through adverse weather from standoff range. The SDB II has deployable wings and fins and uses GPS/INS guidance, network-enabled datalink (Link-16 and UHF), and a multi-mode seeker (millimeter wave radar, imaging infrared) to autonomously search, acquire, track, and defeat targets. The SDB II employs a multi-effects warhead (Blast, Fragmentation, and Shaped-Charge) for maximum lethality against armored and soft targets. The SDB II weapon system consists of the AUR weapon; a 4-place common carriage system; and mission planning system application.

a. SDB II Guided Test Vehicles (GTV) is an SDB II configuration used for land or sea range-based testing of the SDB II weapon system. The GTV has common flight characteristics of an SDB II AUR, but in place of the multi-effects warhead is a Flight Termination, Tracking, and Telemetry (FTTT) subassembly that mirrors the AUR multi-effects warhead's size and mass properties, but provides safe flight termination, free flight

tracking and telemetry of encrypted data from the GTV to the data receivers. The SDB II GTV can have either inert or live fuses. All other flight control, guidance, data-link, and seeker functions are representative of the SDB II AUR.

b. SDB II Captive Carry Reliability Test (CCRT) vehicles are an SDB II configuration primarily used for reliability data collection during carriage. The CCRT has common characteristics of an SDB II AUR but with an inert warhead and fuze. The CCRT has an inert mass in place of the warhead that mimics the warhead's mass properties. The CCRT is a flight capable representative of the SDB II AUR but is not approved for release from any aircraft. Since all other flight control, guidance, data-link, and seeker functions are representative of the SDB II AUR, this configuration could be used for any purpose where an inert round without telemetry or termination capability would be useful.

6. This sale will involve the release of sensitive and/or classified technology. The highest level of classification of information included in this potential sale is SECRET.

7. If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures that might reduce weapon system effectiveness or be used in the development of a system with similar advanced capabilities.

8. A determination has been made that Switzerland can provide substantially the same degree of protection for the sensitive technology being released as the U.S. Government. This sale is necessary in furtherance of the U.S. foreign policy and national security objectives outlined in the Policy Justification.

9. All defense articles and services listed in this transmittal are authorized for release and export to the Government of Switzerland.